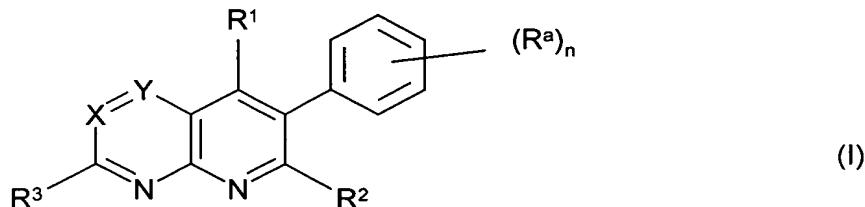


Claims

1. A bicyclic compound of the formula I

5



in which

X, Y independently of one another are N or C-R⁴;

10 n is 1, 2, 3, 4 or 5;

R^a is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₂-C₆-alkenyl, C₂-C₆-alkenyloxy or C(O)R⁵;R¹ is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl,15 C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₈-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen, C₅-C₈-cycloalkenyl which is optionally mono- orpolysubstituted by alkyl and/or halogen, OR⁶, SR⁶ or NR⁷R⁸;R² is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl,20 C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₈-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen, C₅-C₈-cycloalkenyl which is optionally mono- orpolysubstituted by alkyl and/or halogen, OR⁶, SR⁶ or NR⁷R⁸;R³ is hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or C₃-C₆-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen;R⁴ is hydrogen, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or C₃-C₆-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen;30 R⁵ is hydrogen, OH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₂-C₆-alkenyl, C₁-C₆-alkylamino or di-C₁-C₆-alkylamino, piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl;R⁶ is hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, phenyl-C₁-C₄-alkyl

where phenyl may be mono- or polysubstituted by halogen, alkyl or alkoxy, C₂-C₆-alkenyl or COR⁹;

5 R⁷, R⁸ independently of one another are hydrogen, C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₄-C₁₀-alkadienyl, C₂-C₁₀-alkynyl, C₃-C₈-cycloalkyl, C₅-C₈-cycloalkenyl, C₅-C₁₀-bicycloalkyl, phenyl, phenyl-C₁-C₄-alkyl, naphthyl, a 5- or 6-membered saturated or partially unsaturated heterocycle which may have 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members, or

10 a 5- or 6-membered aromatic heterocycle which may have 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members,

15 where the radicals mentioned as R⁷, R⁸ may be partially or fully halogenated and/or may have 1, 2 or 3 radicals R^b, where

20 R^b is selected from the group consisting of cyano, nitro, OH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₂-C₆-alkenyl, C₂-C₆-alkenyloxy, C₂-C₆-alkynyl, C₂-C₆-alkynyloxy, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl;

25 R⁷ and R⁸ together with the nitrogen atom to which they are attached may also form a 5-, 6- or 7-membered saturated or unsaturated heterocycle which may have 1, 2, 3 or 4 further heteroatoms selected from the group consisting of O, S, N and NR¹⁰ as ring members and may be partially or fully halogenated and which may have 1, 2 or 3 radicals R^b; and

30 R⁹, R¹⁰ independently of one another are hydrogen or C₁-C₆-alkyl; or an agriculturally acceptable salt of a compound I,

35 except for the compounds of the formula I in which R¹ is OH, if Y and X are simultaneously each C-R⁴; and also except for 2,4-dichloro-3-(o-methoxyphenyl)-1,8-naphthyridine.

2. The compound according to claim 1 of the formula I in which Y and X are each C-R⁴.

3. The compound according to claim 1 of the formula I in which Y is N and X

is C-R⁴.

4. The compound according to claim 1 of the formula I in which Y is C-R⁴ and X is N.

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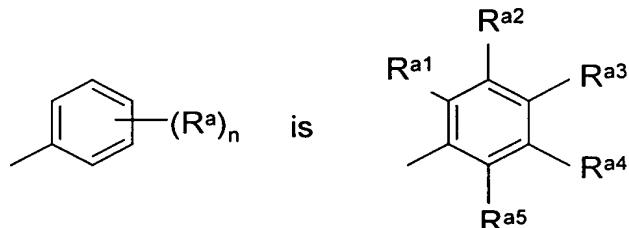
5. The compound according to any of the preceding claims of the formula I in which R⁴ is hydrogen, C₁-C₆-alkyl or C₁-C₆-haloalkyl.

10

6. The compound according to any of the preceding claims of the formula I in which n is 2, 3, 4 or 5.

7. The compound according to any of the preceding claims of the formula I in which the group

15



where

R^{a1} is fluorine, chlorine, trifluoromethyl or methyl;

R^{a2} is hydrogen or fluorine;

20 R^{a3} is hydrogen, fluorine, chlorine, cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy or C₁-C₄-alkoxycarbonyl;

R^{a4} is hydrogen, chlorine or fluorine;

R^{a5} is hydrogen, fluorine, chlorine, C₁-C₄-alkyl or C₁-C₄-alkoxy.

25 8. The compound according to any of the preceding claims of the formula I in which R¹ is a group NR⁷R⁸ in which at least one of the radicals R⁷, R⁸ is different from hydrogen.

9. The compound according to claim 8 of the formula I in which

30 R⁷ is C₁-C₆-alkyl, C₃-C₈-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen, C₁-C₆-haloalkyl, phenyl-C₁-C₄-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl;

R⁸ is hydrogen, C₁-C₆-alkyl or C₂-C₆-alkenyl; or

35 R⁷,R⁸ together with the nitrogen atom to which they are attached are a saturated or partially unsaturated 5-, 6- or 7-membered nitrogen

5 heterocycle which may have 1 further heteroatom selected from the group consisting of O, S and NR¹⁰ as ring member and which may have 1 or 2 substituents selected from the group consisting of C₁-C₆-alkyl, C₁-C₆-haloalkyl, halogen and hydroxyl, where R¹⁰ is as defined in claim 1.

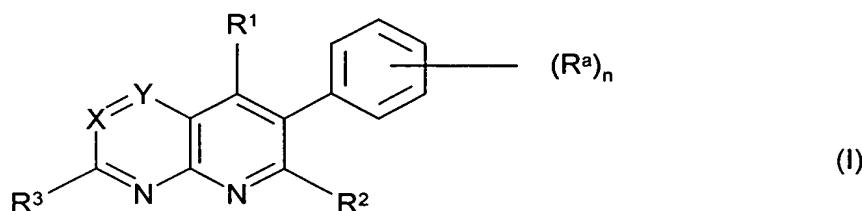
10. The compound according to claim 1 of the formula I in which R¹ is hydroxyl and one of the radicals Y or X is N.

10 11. The compound according to any of claims 1 to 7 of the formula I in which R¹ is halogen.

12. The compound according to claim 1 in which R² is hydroxyl, Y is C-R⁴ and X is C-R⁴ or N.

15 13. The compound according to any of claims 1 to 11 in which R² is halogen, C₁-C₆-alkyl or C₁-C₆-haloalkyl.

20 14. The use of a compound of the formula I



in which

25 X, Y independently of one another are N or C-R⁴;

n is 1, 2, 3, 4 or 5;

R^a is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₂-C₆-alkenyl, C₂-C₆-alkenyloxy or C(O)R⁵;

30 R¹ is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₈-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen, C₅-C₈-cycloalkenyl which is optionally mono- or polysubstituted by alkyl and/or halogen, OR⁶, SR⁶ or NR⁷R⁸;

35 R² is halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, C₃-C₈-cycloalkyl which is

optionally mono- or polysubstituted by alkyl and/or halogen, C₅-C₈-cycloalkenyl which is optionally mono- or polysubstituted by alkyl and/or halogen, OR⁶, SR⁶ or NR⁷R⁸;

5 R³ is hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or C₃-C₆-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen;

10 R⁴ is hydrogen, halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or C₃-C₆-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen;

15 R⁵ is hydrogen, OH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₂-C₆-alkenyl, C₁-C₆-alkylamino or di-C₁-C₆-alkylamino, piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl;

20 R⁶ is hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, phenyl-C₁-C₄-alkyl where phenyl may be mono- or polysubstituted by halogen, alkyl or alkoxy, C₂-C₆-alkenyl or COR⁹;

25 R⁷, R⁸ independently of one another are hydrogen, C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₄-C₁₀-alkadienyl, C₂-C₁₀-alkynyl, C₃-C₈-cycloalkyl, C₅-C₈-cycloalkenyl, C₅-C₁₀-bicycloalkyl, phenyl, phenyl-C₁-C₄-alkyl, naphthyl, a 5- or 6-membered saturated or partially unsaturated heterocycle which may have 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members, or

30 a 5- or 6-membered aromatic heterocycle which may have 1, 2 or 3 heteroatoms selected from the group consisting of N, O and S as ring members, where the radicals mentioned as R⁷, R⁸ may be partially or fully halogenated and/or may have 1, 2 or 3 radicals R^b, where

35 R^b is selected from the group consisting of cyano, nitro, OH, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₂-C₆-alkenyl, C₂-C₆-alkenyoxy, C₂-C₆-alkynyl, C₂-C₆-alkynyoxy, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl;

R⁷ and R⁸ together with the nitrogen atom to which they are attached may also form a 5-, 6- or 7-membered saturated or unsaturated heterocycle which may have 1, 2, 3 or 4 further

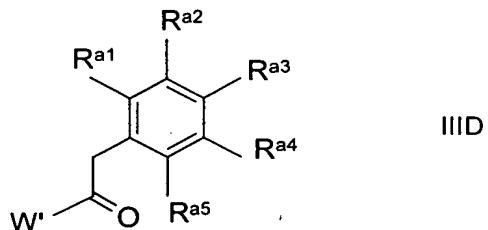
heteroatoms selected from the group consisting of O, S, N and NR¹⁰ as ring members, and may be partially or fully halogenated and which may have 1, 2 or 3 radicals R^b; and

5 R⁹, R¹⁰ independently of one another are hydrogen or C₁-C₆-alkyl; or an agriculturally acceptable salt thereof for controlling phytopathogenic fungi.

15. A method for controlling phytopathogenic fungi, which comprises treating the fungi or the materials, plants, the soil or seed to be protected against 10 fungal attack with an effective amount of a compound of the formula I according to claim 14 and/or with an agriculturally acceptable salt of I.

16. A composition for controlling phytopathogenic fungi, comprising at least 15 one compound of the formula I according to claim 14 and/or an agriculturally acceptable salt of I and at least one liquid or solid carrier.

17. A ketone of the formula IIID



20

in which

W' is C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₂-C₆-alkenyl, C₂-C₆-alkynyl, 25 C₃-C₈-cycloalkyl which is optionally mono- or polysubstituted by alkyl and/or halogen, C₅-C₈-cycloalkenyl which is optionally mono- or polysubstituted by alkyl and/or halogen;

R^{a1} is fluorine, chlorine, trifluoromethyl or methyl;

R^{a2} is hydrogen or fluorine;

R^{a3} is hydrogen, fluorine, chlorine, cyano, C₁-C₄-alkyl, C₁-C₄-alkoxy or 30 C₁-C₄-alkoxycarbonyl;

R^{a4} is hydrogen, chlorine or fluorine;

R^{a5} is hydrogen, fluorine, chlorine, C₁-C₄-alkyl or C₁-C₄-alkoxy.